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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,066	05/07/2001	Tongwei Liu	HP-10012392	2859

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EXAMINER	
LE, MIRANDA	

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/851,066	Applicant(s) LIU ET AL.	
	Examiner Miranda Le	Art Unit 2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This communication is responsive to Amendment A, filed on 11/04/2003.

2. Claims 1-22 are pending in this application. Claims 1; 8, 15, 22 are independent claims. In the Amendment A, claims 1, 4, 5, 7, 8, 11, 12, 14, 15, 18, 19, 21 have been amended. This action is made Final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless:
>
> (e) the invention was described in
>
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or
>
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 8-13, 15-20, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Hadzikadic et al. (US Pub. No. US 2002/0059202).

Hadzikadic anticipated independent claims 1, 8, 15, 22 by the following:

As to claims 1, 8, 15, Hadzikadic teaches "receiving a record comprising a plurality of variables, wherein said record comprises information for a first portion of said variables" at [0074], [0076], [0031];

"using said information with a first classification tool adapted to classify said record" at [0076], [0078], [0042];

"using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information" at [0074], [0078], [0080], [0031], [0037].

As per claim 22, Hadzikadic teaches:

"ranking said plurality of variables according to their respective influence on said classifying" at [0086];

"grouping said plurality of variables into subsets of variables using said ranking, wherein a classification tree is computed for each of said subsets" at [0086];

"receiving a record comprising information for a portion of said variables" at [0074], [0076], [0031]

"using said information with a first classification tree adapted to classify said record, wherein said first classification tree is based on a substantially complete set of information for said plurality of variables" at [0076], [0078], [0080], [0031], [0037];

"using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information, wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does

not include said particular item of information that is missing" at [0076], [0078], [0080], [0031], [0037], [0042].

As to claims 2, 9, 16, Hadzikadic teaches "first classification tool and said second classification tool are a first classification tree and a second classification tree, respectively" at [0078], [0079], [0080].

As to claims 3, 10, 17, Hadzikadic teaches "first classification tree is computed using a substantially complete set of information for said plurality of variables and wherein said second classification tree is computed using information for a subset of said plurality of variables, wherein said subset does not include said particular item of information that is missing" at [0037], [0042].

As to claims 4, 11, 18, Hadzikadic teaches "ranking said plurality of variables according to their respective influence on said classifying" at [0086];

"grouping said plurality of variables into subsets of variables using said ranking" at [0086].

As to claims 5, 12, 19, Hadzikadic teaches "computing a classification tree for each one of said subsets" at [0078], [0079], [0080], [0042].

As to claims 6, 13, 20, Hadzikadic teaches "said record comprises customer information for a client, wherein content is selected for delivery to a customer according to said classifying of said record" at [0043], [0044].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7, 14, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hadzikadic et al. (US Pub. No. US 2002/0059202), in view of Chaudhuri et al. (US Patent No. 6,212,526 B1).

As to claims 7, 14, 21, Hadzikadic does not specifically teach "substituting a default value for said particular item of information that is missing". However, Chaudhuri teaches this limitation at col. 10, line 21 to col. 11, line 5.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hadzikadic with the teachings of Chaudhuri to include "substituting a default value for said particular item of information that is missing" in order to provide a method optimizes the construction of the classifier from the database by minimizing the number of database scans and making as much use of computer's fast main memory (RAM) as possible.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless:
>
> (e) the invention was described in
>
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or
>
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-6, 8-13, 15-20, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwamoto et al. (US Patent No. 6,671,680 B1).

Iwamoto anticipated independent claims 1, 8, 15, 22 by the following:

As to claims 1, 8, 15, Iwamoto teaches "receiving a record comprising a plurality of variables, wherein said record comprises information for a first portion of said variables" at col. 3, lines 22-56;

"using said information with a first classification tool adapted to classify said record" at col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B;

"using said information with a second classification tool instead of with said first classification tool to classify said record in response to determining that said first classification tool requires a particular item of information that is missing from said information" at col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B.

As per claim 22, Iwamoto teaches:

"ranking said plurality of variables according to their respective influence on said classifying" at col. 4, lines 30-45;

"grouping said plurality of variables into subsets of variables using said ranking, wherein a classification tree is computed for each of said subsets" at col. 4, lines 30-45, col. 9, lines 3-65;

"receiving a record comprising information for a portion of said variables" at col. 3, lines 22-56;

"using said information with a first classification tree adapted to classify said record, wherein said first classification tree is based on a substantially complete set of information for said plurality of variables" at col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B;

"using said information with a second classification tree instead of with said first classification tree to classify said record when said first classification tree requires a particular item of information that is missing from said information" at col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B,

"wherein said second classification tree is based on information for one of said subsets of variables, wherein said one of said subsets does not include said particular item of information that is missing" at col. 7, line 27 to col. 28, line 67.

As to claims 2, 9, 16, Iwamoto teaches "first classification tool and said second classification tool are a first classification tree and a second classification tree, respectively" at Fig. 13A, Fig. 13B.

As to claims 3, 10, 17, Iwamoto teaches "first classification tree is computed using a substantially complete set of information for said plurality of variables and wherein said second classification tree is computed using information for a subset of said plurality of variables, wherein said subset does not include said particular item of information that is missing" at col. 3, lines 22-56, col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B.

As to claims 4, 11, 18, Iwamoto teaches "ranking said plurality of variables according to their respective influence on said classifying" at col. 4, lines 30-45;

"grouping said plurality of variables into subsets of variables using said ranking" at col. 4, lines 30-45, col. 9, lines 3-65.

As to claims 5, 12, 19, Iwamoto teaches "computing a classification tree for each one of said subsets" at col. 15, line 3 to col. 16, line 29, Fig. 13A, Fig. 13B.

As to claims 6, 13, 20, Iwamoto teaches "said record comprises customer information for a client, wherein content is selected for delivery to a customer according to said classifying of said record" at col. 7, line 27 to col. 28, line 67.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 7, 14, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamoto et al. (US Patent No. 6,671,680 B1), in view of Chaudhuri et al. (US Patent No. 6,212,526 B1).

As to claims 7, 14, 21, Iwamoto does not expressly teach "substituting a default value for said particular item of information that is missing". However, Chaudhuri teaches this limitation at col. 10, line 21 to col. 11, line 5.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Iwamoto with the teachings of Chaudhuri to include

"substituting a default value for said particular item of information that is missing" in order to provide a method optimizes the construction of the classifier from the database by minimizing the number of database scans and making as much use of computer's fast main memory (RAM) as possible.

Response to Arguments

11. Applicant's arguments, regarding Iyengar, Haimowitz, and Johnson, alone or in combination, do not show or suggest using a decision tree classifier with incomplete information, with respect to claims 1-22, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

ML

Miranda Le
January 22, 2004

GRETA ROBINSON
PRIMARY EXAMINER